

REMARKS

The Office Action dated July 30, 2003, has been received and reviewed.

Claims 1-20 are currently pending and under consideration in the above-referenced application. Of these, claims 2 and 5-10 have been withdrawn from consideration for being directed to a non-election invention. Of the claims which remains under consideration, claims 1, 3, 4, 11-13, and 15-20 stand rejected. It has been indicated that claim 14 recites allowable subject matter.

Claims 1-20 have been amended solely to replace occurrences of the term "said" with "the." None of the claim amendments substantively changes the prior scope of any of claims 1-20. Further, it is respectfully submitted that none of the claim amendments introduces new matter into the above-referenced application.

Reconsideration of the above-referenced application is respectfully requested.

Rejections Under 35 U.S.C. § 102(e)

Claims 1, 3, 11-13, and 15-20 stand rejected under 35 U.S.C. § 102(e) for reciting subject matter which is purportedly anticipated by prior art.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Yates

Claims 15-20 stand rejected under 35 U.S.C. § 102(e) for reciting subject matter which is purportedly anticipated by the subject matter described in U.S. Patent 6,358,793 to Yates et al. (hereinafter "Yates").

Yates describes processes for forming localized photomasks over semiconductor device structures, such as capacitor structures that include containers. Yates also describes that such

processes may be effected without the use of abrasive processes such as chemical-mechanical planarization (CMP). In those process, a layer of photoresist 45, 70, 75 (FIGs. 11, 12, and 17) is applied (*e.g.*, by conventional spin-on processes) to a substrate 5, 10 and within container holes 20, then selectively exposed to form the photomask within container holes. Col. 3, lines 49-51. The only portions of the photoresist that become polymerized during the disclosed process include those located “above the sidewalls of the hole[s]” and that within the holes, which is underexposed.” *See, e.g.*, col. 3, lines 61-65. The remainder of the photoresist is then removed. *See, e.g., id.*

Yates is silent as to whether or not the resulting mask has a surface which is “substantially planar.” As Yates is silent as to the planarity of the surface of the photoresist layers described therein, the Office has focused on the planar appearance of the upper surfaces of the photoresist layers 45, 70, 75 that are shown in the drawings of Yates (*e.g.*, FIGs. 11, 12, and 17).

M.P.E.P. § 2125 provides that “[d]rawings and pictures can anticipate claims is they clearly show the structure which is claimed,” but cautions that the “drawings must be evaluated for what they reasonably disclose and suggest to one of ordinary skill in the art.” M.P.E.P. § 2125 indicates, as an example, that the relative dimensions of features of an object illustrated in drawings would not be reasonably disclosed or suggested to one of ordinary skill in the art unless the reference also discloses that the drawings are to scale.

In view of the guidance that has been provided in M.P.E.P. § 2125, without further guidance from the specification of Yates, the mere inclusion of straight lines in the simplified drawings thereof does not indicate that surfaces represented by the straight lines are substantially planar. Thus, Yates does not expressly or inherently describe that the surfaces of any of the photoresist layers (*e.g.*, layers 45, 70, and 75 shown in FIGs. 17, 11, and 12, respectively) thereof have surfaces which are substantially planar.

In contrast to the subject matter which is actually described in Yates, the semiconductor device structure recited in independent claim 15 of the above-referenced application includes a material layer with a substantially planar surface.

As Yates does not expressly or inherently describe that any of the photoresist layers described therein have substantially planar surfaces, it is respectfully submitted that, under 35 U.S.C. § 102(e), Yates does not anticipate each and every element of independent claim 15 and, thus, recites subject matter which is allowable over the description of Yates.

Each of claims 16-20 is allowable, among other reasons, for depending either directly or indirectly from claim 15, which is allowable.

Claim 20 is further allowable since Yates neither expressly nor inherently describes a material layer (*i.e.*, either the photoresist layer or the resulting mask layer thereof) that has a thickness which is less than the depths of the containers thereof. The relative dimensions shown in the drawings of Yates cannot be relied upon since Yates does “not disclose that the drawings are to scale and is silent as to dimensions.” M.P.E.P. § 2125.

Kikuchi

Claims 1, 3, and 11-13 stand rejected under 35 U.S.C. § 102(e) for being drawn to subject matter which is assertedly anticipated by the description of U.S. Patent 6,278,153 to Kikuchi et al. (hereinafter “Kikuchi”).

The description of Kikuchi is much like that of Yates. Specifically, FIG. 6D of Kikuchi shows a semiconductor device structure includes a substrate 21, multiple material layers 23-27 formed on the substrate 21, and a via-hole 23a extending downwardly into the material layers 23-27. *See also* FIGs. 6A-6C; col. 16, line 48, to col. 17, line 61. A resist 20 is then formed over the semiconductor device structure and within the via-holes 23a thereof. FIG. 6D; col. 17, line 62, to col. 18, line 2.

The specification of Kikuchi does not expressly or inherently describe that a surface of the resist 20 is substantially planar. Rather, the Office again appears to rely upon the drawings for this feature of the claims. Again, it is respectfully submitted that, in view of the guidance provided by M.P.E.P. § 2125, such reliance is improper, since the specification does not indicate that the features (*e.g.*, straight lines) of the simplified drawings are to be taken at face value.

In contrast to the subject matter described in Kikuchi, independent claim 1 of the above-referenced application recites a semiconductor device structure which includes a material layer disposed over a substrate, substantially filling at least one recess of the substrate, and having a substantially planar surface.

As Kikuchi is devoid of any express or inherent description that the resist layer 20 or any other layer described therein has a substantially planar surface, it is respectfully submitted that independent claim 1 recites subject matter which, under 35 U.S.C. § 102(e), is unanticipated by and allowable over the description of Kikuchi.

Each of claims 3 and 11-13 is allowable, among other reasons, for depending either directly or indirectly from claim 1, which is allowable.

Claim 13 is additionally allowable since Kikuchi neither expressly nor inherently describes a material layer (*i.e.*, either the resist layer or the resulting mask layer thereof) that has a thickness which is less than the depths of the via-holes 23a thereof. M.P.E.P. § 2125 clearly indicates that the relative dimensions shown in the drawings of Kikuchi cannot be relied upon since Kikuchi does “not disclose that the drawings are to scale and is silent as to dimensions.”

In view of the foregoing, it is respectfully requested that the 35 U.S.C. § 102(e) rejections of claims 1, 3, 11-13, and 15-20 be withdrawn.

Rejections Under 35 U.S.C. § 103(a)

Kikuchi in View of Dennison

Claim 4 stands rejected under 35 U.S.C. § 103(a) for reciting subject matter which is purportedly unpatentable over that taught in Kikuchi, in view of teachings from U.S. Patent 5,663,090 to Dennison et al.

Claim 4 is allowable, among other reasons, for depending from claims 1 and 3, which are allowable.

Allowable Subject Matter

The indication that claim 14 recites allowable subject matter is gratefully acknowledged. As claim 1, from which claim 14 depends, is also believed to be allowable, claim 14 has not been amended to independent form.


ELECTION OF SPECIES REQUIREMENT

As each of claims 1, 3, 4, and 15-20 remains generic to all of the species of invention that have been identified by the Office, it is respectfully requested that claims 2 and 5-10 be considered and allowed.

CONCLUSION

It is respectfully submitted that each of claims 1-20 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,



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